

Smith, Clifford L.

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## **II. Remarks Concerning the Claim Amendments**

Applicant thanks the Examiner for the careful and thorough examination of the present application. Claims 4, 7 and 8 were previously amended in Applicant's first Response to Office Action. Claims 1-16 remain pending in the application.

## **III. Response to Examiner's Section 112 Rejections**

Independent Claim 1 is amended to remove the matter considered new by the examiner. The applicant notes that the removed, previously presented range was within the range taught by the specification and was wholly taught by the specification, without being limiting.

## **IV. Response to Examiner's Section 103 Rejections**

To establish a prima facie case of obviousness, [1] there must be some suggestion or motivation to modify the reference or combine the reference teachings; [2] there must be some reasonable expectation of success; and [3] the prior art must teach or suggest all the claim limitations. MPEP § 706.02(j). The prior art meets none of these requirements. Additionally, when applying §103, certain basic considerations include: (A) the claimed invention must be considered as a whole; (B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; and (C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. MPEP § 2141.

Firstly, neither the Watson et al. patent (US 6,073,648) nor the Oshima et al. patent (US 4,889,602) provide some suggestion or motivation to modify the reference or

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combine the reference teachings. The “motivation to combine the references to arrive at the claimed invention can be found in the ‘nature of the problem to be solved.’” MPEP §2143.01 (citing *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276, 69 USPQ2d 1686, 1690 (Fed. Cir. 2004)). The current invention addresses at least the problems of corrosion resistance, wear and sealing, as stated at line 2, page 9 of the disclosure. Those skilled in the art of severe use tools described in the disclosure would understand the wear forces that act on the service area of the described “tools” are load-bearing wear of a grinding nature, as from contact with another solid object. For the prior art to be considered by one skilled in the art such prior art must suggest or motivate them to believe the prior art will address their combination of problems. That is not the case here.

Though both references teach the ability to protect against corrosion with an electroplating coating, only Watson addresses the further elements of multiple coatings and the use of coatings to combat erosion. As is understood by those skilled in the art of metal coating, and as described in Watson, erosion is wear due to repeated contact with passing particles. The nature of such erosive wear is different than load-bearing wear, and known to those skilled in the art to require different solutions. Contrary to the situation in *Ruiz v. A.B. Chance Co.*, the prior art in this situation does not address the “nature of the problem solved” by the current invention. Further, Watson teaches the necessity of the use of a “noble-metal,” thereby teaching away from the combination of Watson and Oshima proposed by the Examiner. To make the combination proposed by the Examiner one would have to eliminate the principle teaching of Watson – that noble metal is necessary as an underlayer coating to the spray metal coating.

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Secondly, the prior art does not provide some reasonable expectation of success. As previously stated, Watson teaches the necessity of the use of a "noble-metal," thereby teaching away from the combination of Watson and Oshima. Additionally, the Watson disclosure teaches reliance on a spray coating, referred to as "a ceramic coating," to combat erosive wear. The current invention teaches a solid nickel underlayer that supports the spray metal layer creating and unexpectedly durable composite coating. (See the inventor's Rule 132 Affidavit.) The current disclosure presents disadvantages and shortcomings to the mere use of such a ceramic coating, which the current invention overcomes. Oshima provides no support for success of the Examiner's suggested combination, because it does not address wear resistance.

Thirdly, the prior art does not teach or suggest all the claim limitations of the current claims. The preamble of independent claim 1 cites a tool service area, which by definition must belong to a tool. Both Watson and Oshima are concerned with the broader scope of applying metal coatings to a substrate. To those skilled in the art, considering the invention as a whole, the word *tool* implies a device that interacts with other devices and materials to accomplish a particular task and bears a load on the tool's service area of that interaction. In the interaction with other devices and solid materials load-bearing wear is realized, accepted as certain, and acknowledged as a problem to overcome by those skilled in the art. Neither Watson nor Oshima address the problem of such wear when their teachings are considered as a whole.

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## V. Submission of Objective Evidence of Non-Obviousness

The applicant submits the attached Rule 132 Affidavit by the inventor attesting to unexpected results and commercial success of the current invention. These pieces of objective evidence "are relevant to the issue of obviousness and *must* be considered in every case in which they are present." MPEP §2141. (emphasis added.) The Supreme Court stated in *Graham v. John Deere Co.*, that "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter to be patented," and that "As indicia of obviousness or nonobviousness, these inquiries may have relevancy." *Graham v. John Deere Co.*, 383 U.S. 1 (1966). More recently the Federal Circuit elaborated that objective evidence "may be the most pertinent, probative, and revealing evidence available to aid ... in reaching a conclusion on the obviousness/nonobviousness issue." The Inventor's Rule 132 Affidavit presents evidence of unexpected results, commercial success, long felt but unsolved needs and failure of others.

## VI. Conclusion

The cited prior art does not meet any of the requirements to establish a prima facie case for obviousness. The prior art neither suggests nor motivates one to modify the reference or combine the reference teachings to achieve the current invention as claimed in the independent claim. Even if one were to consider making the suggested modification, there is no teaching in the prior art that would provide support for some reasonable expectation of success, but instead to make the proposed combination would

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eliminate the principal element of Watson, which should be seen to teach away from the proposed combination. Finally, the prior art does not address the element of coating a tool subjected to load-bearing wear.

Though upon reading the disclosure the invention may appear simple and obvious, the objective evidence demonstrates that to those skilled in the art it is nonobvious and in high demand. Therefore, a finding of obviousness as a basis for rejection of allowance is unfounded and inappropriate.

As amended, Claim 1 should now be suitable for allowance. Since all the remaining claims depend from Claim 1, all of the remaining claims should also be suitable for allowance.

The applicants respectfully request reconsideration of the rejection of these claims, and the issuance of a notice of allowance of all pending claims.

Respectfully submitted,



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